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Static Electricity Precautions

1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

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P23G Series, V3.0a
April 2007

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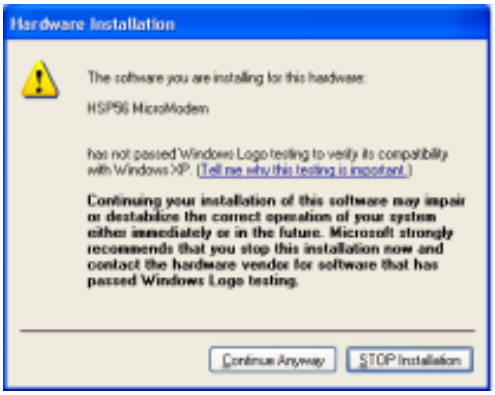
Notice:

Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.


Hardware Installation
The software you are installing for this hardware:
HSP56 MicroModem
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Chapter 1 Introduction

This motherboard has a LGA775 socket for latest Intel® Core™ 2 Duo/Celeron D processors with Hyper-Threading Technology and Front-Side Bus (FSB) speeds up to 1066/800/533 MHz. Hyper-Threading Technology, designed to take advantage of the multitasking features in Windows XP, gives you the power to do more things at once.

It integrates the VIA P4M800Pro Northbridge and VT8237R+ Southbridge that supports the Serial ATA interface for high-performance and mainstream desktop PCs; the built-in USB 2.0 providing higher bandwidth, implementing Universal Serial Bus Specification Revision 2.0 and is compliant with UHCI 1.1 and EHCI 1.0. It supports AC' 97 Audio Codec and provides Ultra DMA 133/100/66 function. It has one 8X AGP, one CNR and three 32-bit PCI slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one LAN port, one VGA port, three audio jacks for Line-in, Line-out and Microphone, four back-panel USB2.0 ports and onboard USB headers providing extra ports by connecting the Extended USB Module to the motherboard.

It is a Micro ATX motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

LGA775 Socket

- Supports latest Intel® Core™ 2 Duo/Celeron D Series processors with Hyper-Threading Technology
- Supports up to 1066/800/533 3MHz Front-Side Bus

Hyper-Threading technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate 'logical' processors within the same physical processor.

Chipset

There are VIA P4M800Pro Northbridge and VT8237R+ in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- High Performance Northbridge with 1066/800/533 MHz FSB for Intel Celeron D processors
- V-link 533 MB/s high bandwidth North/South Bridge interconnect
- Integrated UniChrome Pro 3D/2D Graphics & Video Controller, Microsoft DirectX 9.0 compatible, OpenGL supported
- Supports for AGP 8X/4X, AGP v3.0 compliant with 1.5V

- Advanced 64-bit DDR2 533 and DDR400 SDRAM controller

Note: P4M800Pro chipset can only support mixed 1024/512/256/128/64Mb x8/16 DDR2 SDRAMs or mixed 1024/512/256/128/64Mb x8/16 DDR SDRAMs.

- Supports 8-bit, 66 MHz, Ultra V-Link interface with 533 MB/sec total bandwidth
- Compliant with PCI 2.2 specification at 33 MHz, supporting up to 6 PCI masters
- Integrated Serial ATA Host Controllers, supporting data transfer rates up to 1..5Gb/s
- Integrated Dual channel UltraDMA 133/100/66 Master Mode EIDE Controller
- USB 2.0 Controller, supporting up to 8 USB 2.0 ports
- Network Controller, supporting enterprise class 100/10 Mb Fast Ethernet MAC
- Integrated keyboard Controller with PS2 mouse support

Memory Support

- Two 184-pin DIMM sockets for DDR SDRAM memory modules
- Two 240-pin DIMM sockets for DDR2 SDRAM memory modules
- Support DDR 400/333 or DDR2 533/400
- Maximum installed memory is 2GB

Note: Users please note that DDR & DDR2 can't both be applied at the same time on this motherboard. Users can use either DDR or DDR2 memory modules only!

Expansion Slots

- Three 32-bit PCI slots
- One 8X AGP slot
- One CNR slot

Onboard IDE channels

- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of 133/100/66 MB/sec

Serial ATA

- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates
- Low pin count for both host and devices

AC'97 Audio Codec

- Compliant with AC'97 2.3 specifications
- Meets performance requirements for audio on PC99/2001 systems
- Meets Microsoft WHQL/WLP 2.0 audio requirements
- HRTF 3D Positional Audio and 10 Bands of Software EQualizer

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- One VGA port
- One LAN port
- Four back-panel USB2.0 ports
- Audio jacks for microphone, line-in and line-out

Fast Ethernet LAN

- Single Chip 100Base-TX / 10Base-T Physical Layer Solution
- Dual Speed – 100/10 Mbps
- Half and Full Duplex
- MII Interface to Ethernet Controller
- MII Interface to Configuration & Status
- Auto Negotiation: 10 / 100, Full / Half Duplex
- Meet All Applicable IEEE 802.3, 10Base-T and 100Base-Tx Standards
- On Chip Wave Shaping – No External Filters Required.

USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- Compliant with Universal Host Controller Interface Specification Revision 1.1
- PCI multi-function device consists of two UHCI Host Controller cores for full-/low-speed signaling and one EHCI Host Controller core for high-speed signaling
- Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by UHCI and EHCI Host Controller, up to eight functional ports
- Support PCI-Bus Power Management Interface Specification release 1.1
- Legacy support for all downstream facing ports

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing

- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Dimensions

- Micro ATX form factor of 244 x 244 mm

Note: Hardware specifications and software items are subject to change without notification.

Package Contents

Your motherboard package ships with the following items:

- ❑ The motherboard
- ❑ The User's Guide
- ❑ One diskette drive ribbon cable (optional)
- ❑ One IDE drive ribbon cable
- ❑ The Software support CD

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- ❑ The Extended USB module
- ❑ The CNR v.90 56K Fax/Modem card
- ❑ The Serial ATA cable
- ❑ The Serial ATA power cable

Note: You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.

Chapter 2 Motherboard Installation

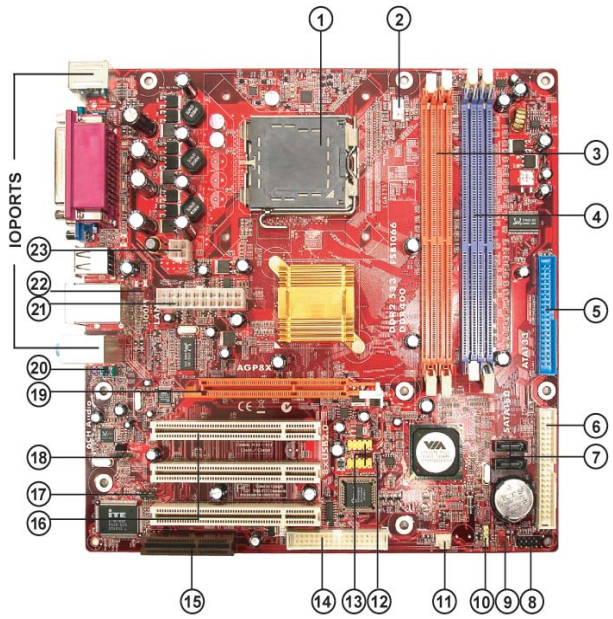
To install this motherboard in a system, please follow these instructions in this chapter:

- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to headers/connectors on the motherboard
- Install peripheral devices and make the appropriate connections to headers/connectors on the motherboard

Note:

1. Before installing this motherboard, make sure jumper CLR_CMOS1 is under Normal setting. See this chapter for information about locating CLR_CMOS1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

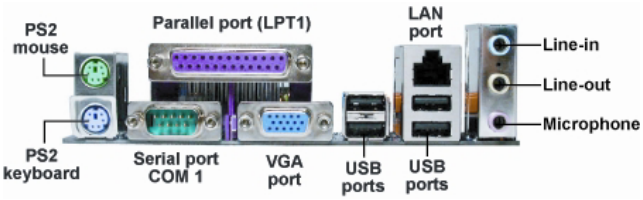
Motherboard Components



ITEM	LABEL	COMPONENTS
1	CPU Socket	LGA775 Socket for Intel® Core™ 2 Duo/ Celeron D processors
2	CPU_FAN1	CPU Fan connector(4-pin)
3	DDRII1~2	240-pin DDR2 SDRAM sockets
4	DDR1~2	184-pin DDR SDRAM sockets
5	IDE1	Primary IDE connectors
6	IDE2	Secondary IDE connectors
7	SATA1~2	Serial ATA connectors
8	PANEL1	Front Panel Switch/LED header
9	CLR_CMOS1	Clear CMOS jumper
10	SPK1	Speaker header
11	SYS_FAN1	System Fan connector
12	USB_PWR2	USB Power Select jumper
13	F_USB1~2	Front Panel USB headers
14	FDD1	Floppy Disk Drive connector
15	CNR1	CNR slot
16	PCI 1~3	32-bit PCI slots
17	IR1	Infrared header
18	CD_IN1	Analog Audio Input header
19	AGP1	AGP slot
20	F_AUDIO1	Front Panel Audio header
21	PWR1	Standard 20-Pin ATX Power connector
22	USB_PWR1	USB Power Select jumper
23	PWR2	Standard 4-Pin ATX Power connector

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.



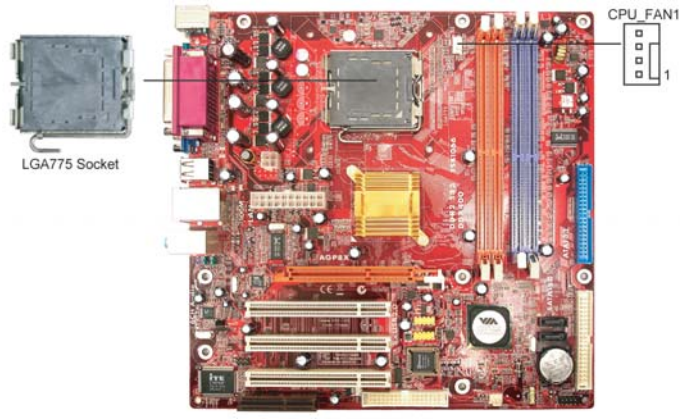
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT1)	Use the Parallel port to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA	Use the VGA port to connect VGA devices.
LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports	Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.

Installing the Processor

This motherboard has a LGA775 socket for the latest Intel® Core™ 2 Duo/ Celeron D processors. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

Follow these instructions to install the CPU:



A. Read and follow the instructions shown on the sticker on the CPU cap.

B. Unload the cap
   - Use thumb & forefinger to hold the lifting tab of the cap.
   - Lift the cap up and remove the cap completely from the socket.

C. Open the load plate
   - Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
   - Lift up the lever.
   - Use thumb to open the load plate. Be careful not to touch the contacts.

D. Install the CPU on the socket
   - Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.

E. Close the load plate
   - Slightly push down the load plate onto the tongue side, and hook the lever.
   - CPU is locked completely.

F. Apply thermal grease on top of the CPU.

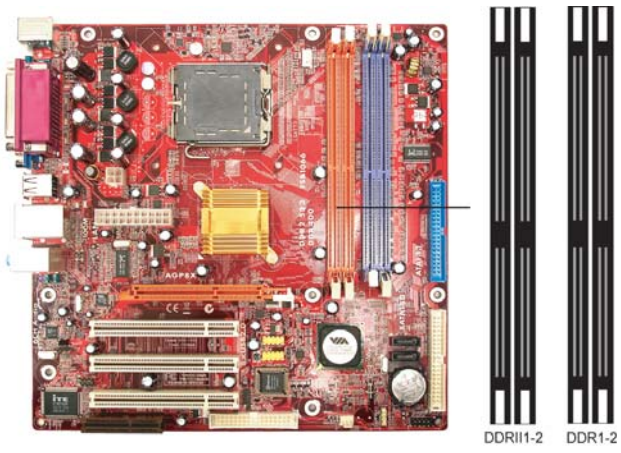
G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

Note 1:	To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.
Note 2:	The fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.
Note 3:	DO NOT remove the CPU cap from the socket before installing a CPU.
Note 4:	Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA 775 socket.

Installing Memory Modules

This motherboard accommodates two 184-pin DIMM DDR1-2 sockets (Dual Inline Memory Module) for unbuffered DDR 400/333 memory modules (Double Data Rate SDRAM) and two 240-pin DIMM DDRII1-2 sockets (Dual Inline Memory Module) for unbuffered DDR2 533/400 memory modules (Double Data Rate SDRAM). DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. You must install at least one module in any of the four slots. Each module can be installed with 256 MB to 1 GB of memory; total memory capacity is 2 GB.

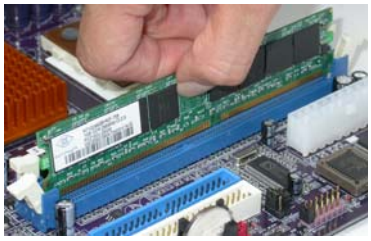


Note1:	Please be noted you can **NOT** use DIMM DDRII1~2 (DDR2 533/400) and DIMM DDR1~2 (DDR 400/333) simultaneously. Only use either DDR2(533/400) or DDR(400/333) memory modules!
Note2:	Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Memory Module Installation Procedure

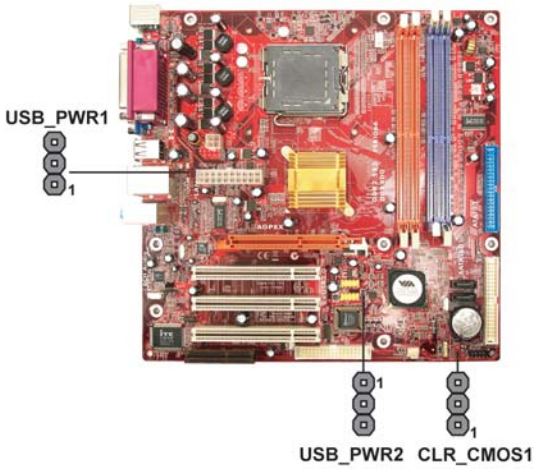
These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.



Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.



CLR_CMOS1: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to “Load Optimal De-faults” and then “Save Changes and Exit”.

USB_PWR1~2: USB Power Select Jumper

Use these jumpers to select the voltage for USB port.

Function	Jumper Setting
VCC5V	Short Pins 1-2
SB5V	Short Pins 2-3

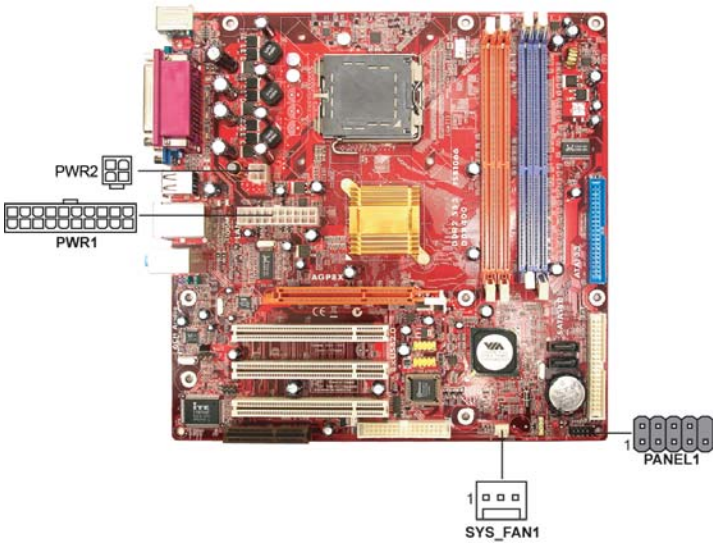
Note: Make sure the power supply provides enough SB5V voltage before selecting the SB5V function.

Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.

Connect the power connector from the power supply to the PWR1 connector on the motherboard. The PWR2 is a +12V connector for CPU Vcore power.



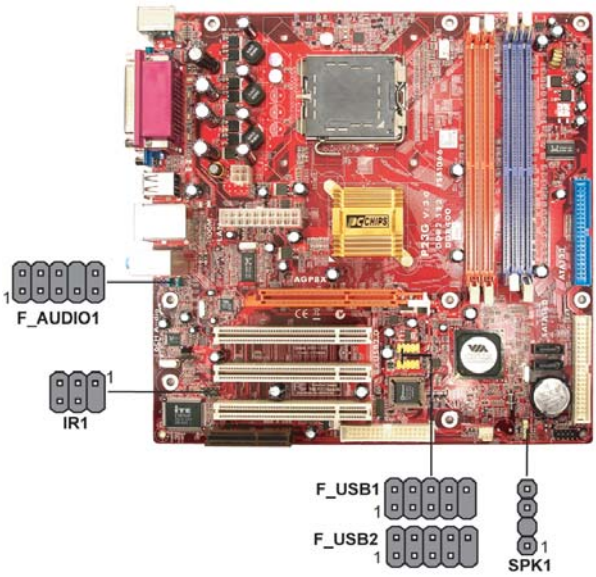
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the SYS_FAN1 fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the PANEL1 header.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

Pin	Signal	Pin	Signal
1	SPKR	2	NC
3	GND	4	+5V

F_AUDIO1: Front Panel Audio Header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal	Pin	Signal
1	AUD_MIC	2	AUD_GND
3	AUD_MIC_BIAS	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

F_USB1/F_USB2: Front panel USB Headers

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers F_USB1/F_USB2 to connect the front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	USB_FP_OC0

1. Locate the F_USB1/F_USB2 header on the motherboard.
2. Plug the bracket cable onto the F_USB1/F_USB2 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

IR1: Infrared Header

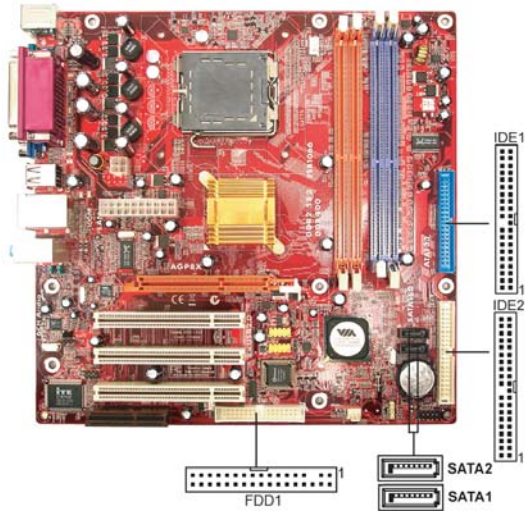
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal	Pin	Signal
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-**IR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 header and then secure the port to an appropriate place in your system chassis.

Install Other Devices

Install and connect any other devices in the system following the steps below.



Floppy Disk Drive

Install your drives and connect power from the system power supply. Use the cable to connect the drives to the floppy disk drive connector FDD1.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector IDE1 on the motherboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector IDE2 on the motherboard. If you have two devices on the cable, one must be Master and one must be Slave.

Serial ATA Devices

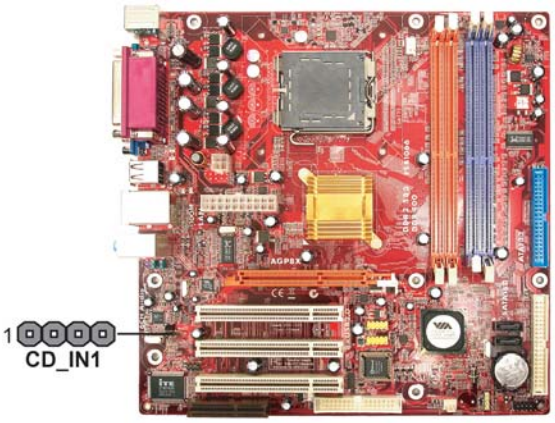
The Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of 1.5 Gb/s. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors SATA1-2, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.

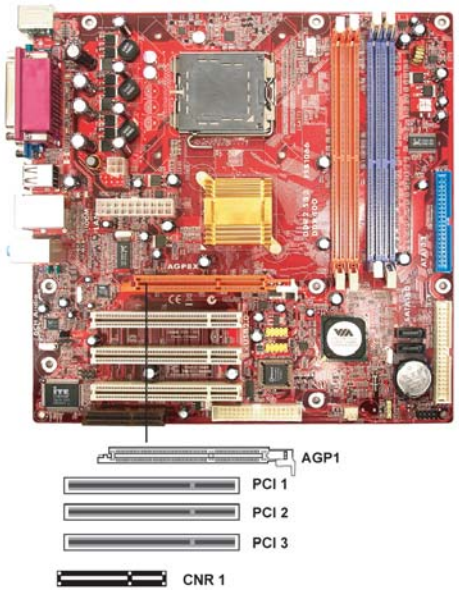


When you first start up your system, the BIOS should automatically detect yourCD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pinheader CD_IN1.

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

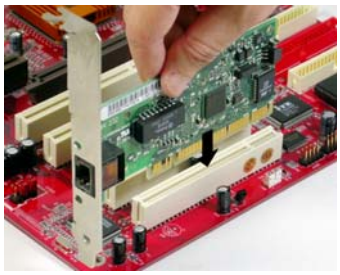
Expansion Slots

This motherboard has one AGP, CNR and three 32-bit PCI slots.



Follow the steps below to install an AGP/CNR/PCI expansion card.

1. Locate the AGP, CNR or PCI slots on the motherboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.
4. Secure the metal bracket of the card to the system chassis with a screw.



8X AGP Slot

You can install a graphics adapter that supports the 8X AGP specification and has a 8X AGP edge connector in the AGP slot.

CNR Slot

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.

Chapter 3 BIOS Setup Utility

Introduction

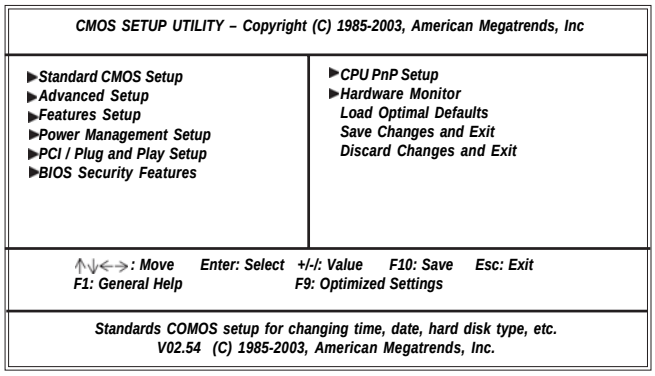
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL>if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor. If you manually clear CMOS, you need to press the **F1** key that enters the Main menu page of the Setup Utility.


CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc
▶Standard CMOS Setup
▶Advanced Setup
▶Features Setup
▶Power Management Setup
▶PCI / Plug and Play Setup
▶BIOS Security Features
▶CPU PnP Setup
▶Hardware Monitor
Load Optimal Defaults
Save Changes and Exit
Discard Changes and Exit
↑↓←→: Move Enter: Select +/-/: Value F10: Save Esc: Exit
F1: General Help F9: Optimized Settings
Standards COMOS setup for changing time, date, hard disk type, etc.
V02.54 (C) 1985-2003, American Megatrends, Inc.

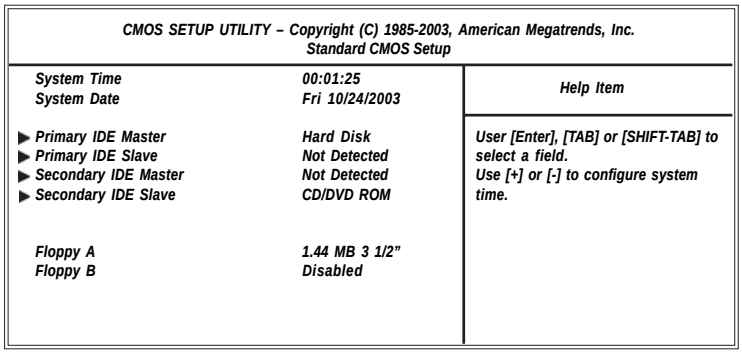
You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **+** and **-** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting **[OK]** or **[Cancel]**.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.

Standard CMOS Setup Page

This page displays a table of items defining basic information about your system.



System Time & System Date

These items set up system date and time.

Primary IDE Master/Primary IDE Slave/Secondary IDE Master/Secondary IDE Slave

Your computer has two IDE channels and each channel can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Floppy A/B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Advanced Setup		
Quick Boot	Enabled	Help Item
1st Boot Device	PM-IC35L040AVVN07	
2nd Boot Device	SS-Pioneer DVD-R0	
3rd Boot Device	1st Floppy Drive	
Try Other Boot Device	Yes	Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
Bootup Num-Lock	On	
Boot To OS/2 > 64 MB	No	
AGP Aperture Size	64 MB	
DRAM Timing	Manual	
DRAM CAS# Latency	By SPD	
DRAM Bank Interleave	4-way	
Hyper Threading Function	Ensabled	
Auto Detect DIMM/PCI Clk	Enabled	
Spread Spectrum	Disabled	
Max CPUID Value Limit	Disabled	
Execute Disable Bit	Enabled	
CPU TM Function	Disabled	
C1E Support	Disabled	
Intel (R) SpeedStep (tm) tech.	Disabled	
Venderpool Technology	Enabled	
DRAM Driving	Normal	

Quick Boot

If you enable this item, the system starts up more quickly be elimination some of the power on test routines.

1st Boot Device/2nd Boot Device/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

Try Other Boot Device

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.

Boot To OS/2> 64MB

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

AGP Aperture Size

This item defines the size of aperture if you use a graphic adapter.

DRAM Timing

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.

DRAM CAS# Latency

This item determines the operation of SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

DRAM Bank Interleave

Enable this item to increase DRAM memory speed. When enabled, separate memory banks are set for odd and even addresses and the next byte of memory can be accessed while the current byte is being refreshed.

Hyper Threading Function

You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.

Auto detect DIMM/PCI Clock

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

Max CPUID Value Limit

When this item is enabled, you can use Prescott CPU and LGA-775 CPU and there will be a normal NT4.0 installation; otherwise, the automatically restarting will occur while installing.

Execute Disable Bit

It allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation. Replacing older computers with Execute Disable Bit-enabled systems can halt worm attacks, reducing the need for virus related repairs.

CPU TM Function

For some specific brands of CPU, you can use this item to control the CPU frequency and voltage according to its temperature.

C1E Support

Use this item to decrease the bus ratio that reduces the consumption of CPU electricity and power.

Intel (R) SpeedStep (tm) tech.

Use this item to enable or disable the Intel SpeedStep Technology, which is only for the Intel CPU supporting the SpeedStep Technology function.

Venderpool Technology

Use this item to enable or disable the Venderpool Technology, which is only for the CPU supporting the VT function.

DRAM Driving

When this item is defaulted at “Normal”, some DDRs might cause the problem of booting or system stability; in that case, please set it at “High”.

Features Setup Page

This page sets up some parameters for peripheral devices connected to the system.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Features Setup		
OnBoard Floppy Controller	Enabled	Help Item
Serial Port1 Address	3F8/IRQ4	
OnBoard IR Port	Disabled	Allows BIOS to Enable or Disable Floppy Controller.
Parallel Port Address	378	
Parallel Port Mode	ECP	
ECP Mode DMA Channel	DMA3	
Parallel Port IRQ	IRQ7	
OnBoard PCI IDE Controller	Both	
Onboard SATA-IDE	IDE	
Audio Device	Enabled	
MODEM Device	Auto	
Ethernet Device	Enabled	
OnBoard LAN Boot Rom	Disabled	
OnBoard USB Function	Enabled	
USB Function For DOS	Disabled	

OnBoard Floppy Controller

Use this item to enable or disable the onboard floppy disk drive interface.

OnBoard Serial Port

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

OnBoard IR Port

Use this item to enable or disable the onboard infrared port, and to assign a port address.

Onboard Parallel Port

This item enables or disables the onboard LPT1 parallel port, and assigns a port address. The Auto setting will detect and available address.

Parallel Port Mode

Use this item to set the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or EPP & ECP.

Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

Parallel Port DMA

Use this item to assign a DMA channel to the parallel port.

OnBoard PCI IDE

Use this item to enable or disable the onboard PCI IDE channel.

OnBoard SATA-IDE

Use this item to select RAID mode, IDE mode or Disabled for onboard SATA-IDE.

Audio Device

This item enables or disables the AC'97 audio chip.

MODEM Device

This item enables or disables the MC'97 modem chip.

Ethernet Device

This item enables or disables the onboard Ethernet LAN.

OnBoard LAN Boot ROM

Use this item to enable or disable the LAN Boot ROM function.

OnBoard USB Function

Enable this item if you plan to use the USB ports on this motherboard.

Power Management Setup Page

This page sets some parameters for system power management operation.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
Power Management Setup

ACPI Aware O/S	*Yes*	*Help Item*
Power Management	*Enabled*	
ACPI Enhanced Efficiency	*Disabled*	*Yes / No*
Suspend Time Out	*Disabled*	*ACPI support for Operating System.*
Resume on RTC Alarm	*Disabled*	*Yes: If OS supports ACPI.*
LAN/Ring Power On	*Disabled*	*No: If OS does not support ACPI.*
Keyboard Power On	*Disabled*	
Wake-Up Key	*Any Key*	

ACPI Aware O/S

This itme supports ACPI (Advanced Configuraion and Power Management Interface). Use this item to enable or disable the ACPI feature.

Power Management

Use this item to enable or disable a power management scheme. If you enable power management, you can use this item below to set the power management operation. Both APM and ACPI are supported.

ACPI Enhanced Efficiency

Use this item to enable or disable the function of ACPI enhanced efficiency.

Suspend Time Out

This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

Resume on RTC Alarm

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

LAN/Ring Power On

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem/

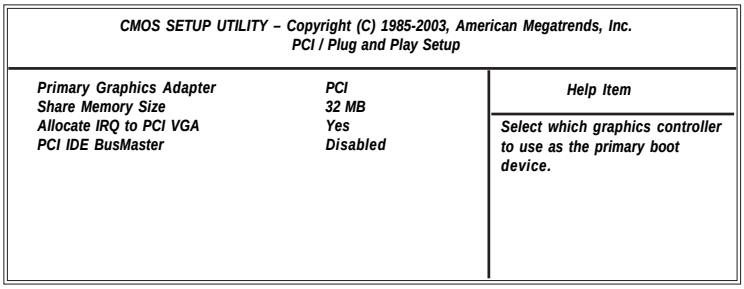
Ring, or traffic on the network adapter. You must use an ATX power supply in order to use this feature.

Keyboard Power On/Wake-Up Key

If you enable this item, the system can automatically resume by pressing any keys, hot key, power key on the keyboard, or typing in the password. You must use an ATX power supply in order to use this feature.

PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.


CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
PCI / Plug and Play Setup
Primary Graphics Adapter
Share Memory Size
Allocate IRQ to PCI VGA
PCI IDE BusMaster
PCI
32 MB
Yes
Disabled
Help Item
Select which graphics controller to use as the primary boot device.

Primary Graphics Adapter

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

Share Memory Size

This item lets you allocate a portion of the main memory for theonbaord VGA display application with several options.

Allocate IRQ to PCI VGA

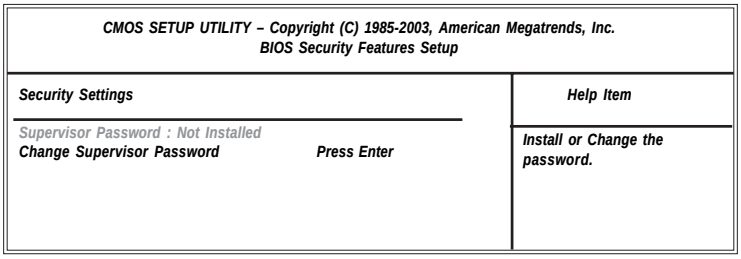
If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster

This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

BIOS Security Features Setup Page

This page helps you install or change a password.


CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
BIOS Security Features Setup
Security Settings
Help Item
Supervisor Password : Not Installed
Change Supervisor Password
Press Enter
Install or Change the password.

Supervisor Password

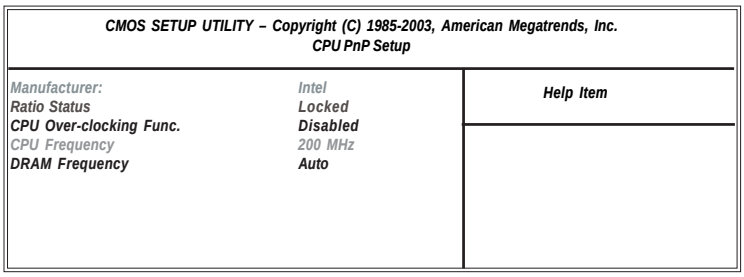
This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor Password

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

CPU PnP Setup Page

This page helps you manually configure the mainboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.



Manufacturer

These items show the brand of the CPU installed in your system.

Ratio Status

This item shows the Locked/Unlocked ratio status of CPU installed in your system.

CPU Over-clocking Func.

This item decides the CPU over-clocking function installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

CPU Frequency

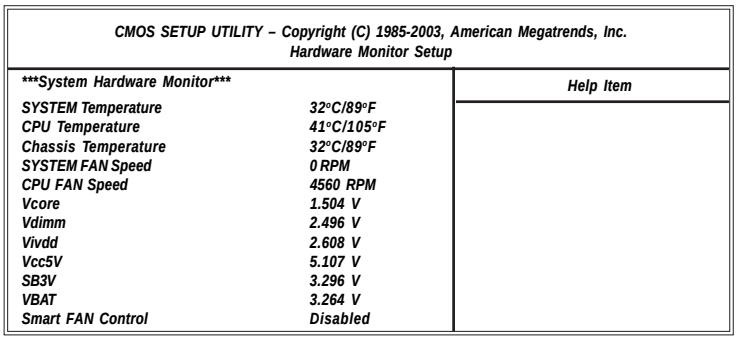
This item shows the frequency of the CPU installed in your system.

DRAM Frequency

This item shows the frequency of the DRAM in your system.

Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this motherboard.



CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
Hardware Monitor Setup

System Hardware Monitor		Help Item
SYSTEM Temperature	32°C/89°F	
CPU Temperature	41°C/105°F	
Chassis Temperature	32°C/89°F	
SYSTEM FAN Speed	0 RPM	
CPU FAN Speed	4560 RPM	
Vcore	1.504 V	
Vdimm	2.496 V	
Vivdd	2.608 V	
Vcc5V	5.107 V	
SB3V	3.296 V	
VBAT	3.264 V	
Smart FAN Control	Disabled	

CPU/System Temperature

These items display CPU and system temperature measurement.

FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

Load Optimal Defaults

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select [OK], and then press <Enter>, the Setup Utility loads all default values; or select [Cancel], and then press <Enter>, the Setup Utility does not load default values.

Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility configuration. When the Save Changes and Exit dialog box appears, select [OK] to save and exit, or select [Cancel] to return to the main menu.

Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, select [OK] to discard changes and exit, or select [Cancel] to return to the main menu.

Note: If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.

Memo

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 98SE/ME/2000/XP, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

1 Insert the support CD-ROM disc in the CD-ROM drive.
2 When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
3 The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.

The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

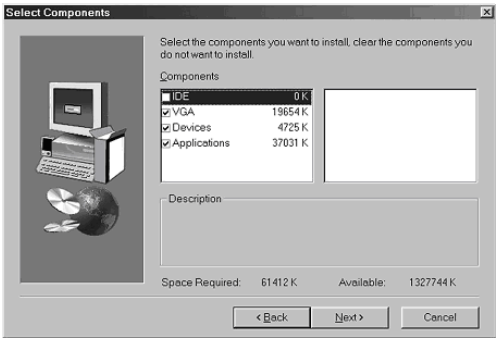
Auto-Installing under Windows 98SE/ME2000/XP

If you are under Windows 98SE/ME/2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

1 The installation program loads and displays the following screen. Click the **Next** button.

Welcome
Welcome to the MainBoard Setup program. This program will install MainBoard on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.



3 The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

1. Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2. A software menu appears. Click the software you want to install.
3. Follow onscreen instructions to install the software program step by step until finished.

Memo

Chapter 5 VIA VT8237 SATA RAID Setup Guide

VIA RAID Configurations

The motherboard includes a high performance Serial ATA RAID controller integrated in the VIA VT8237 Southbridge chipset. It supports RAID 0, RAID 1 and JBOD with two independent Serial ATA channels.

RAID: (Redundant Array of Independent Disk Drives) use jointly several hard drives to increase data transfer rates and data security. It depends on the number of drives present and RAID function you select to fulfill the seurity or performance pruposes or both.

RAID 0 (called data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage.

RAID 1 (called data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system.

JBOD: (Just a Bunch of Drives) Also known as “Spanning”. Two or more hard drives are required. Several hard disk types configured as a single hard disk. The hard drives are simply hooked up in series. This expands the capacity of your drive and results in a useable total capacity. However, JBOD will not increase any performance or data security.

Install the Serial ATA (SATA) hard disks

The VIA VT8237 Southbridge chipset supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a RAID set.

- If you are creating a RAID 0 (striping) array of performance, use two new drives.
- If you are creating a RAID 1 (mirroring) array for protection, you can use two new drives or use an existing drive and a new drive (the new drive must be of the same size or larger than the existing drive). If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size. For example, one hard disk has an 80 GB storage capacity and the other hard disk has 60 GB storage capacity, the maximum storage capacity for the RAID 1 set is 60 GB.

Follow these steps to install the SATA hard disks for RAID configuration.

i Before setting up your new RAID array, verify the status of your hard disks. Make sure the Master/Slave jumpers are configured properly.

ii Both the data and power SATA cables are new cables. You cannot use older 40-pin 80-conductor IDE or regular IDE power cables with Serial ATA drives. Installing Serial ATA (SATA) hard disks require the use of new Serial ATA cable (4-conductor) which supports the Serial ATA protocol and a Serial ATA power cable.

iii Either end of the Serial ATA data cable can be connected to the SATA hard disk or the SATA connector on the motherboard.

1 Install the Serial ATA hard disks into the drive bays.

2 Connect one end of the Serial ATA cable to the motherboard's primary Serial ATA connector (SATA1).

3 Connect the other end of Serial ATA cable to the master Serial ATA hard disk.

4 Connect one end of the second Serial ATA cable to the motherboard's secondary Serial ATA connector (SATA2).

5 Connect the other end of Serial ATA cable to the secondary Serial ATA hard disk.

6 Connect the Serial ATA power cable to the power connector on each drive.

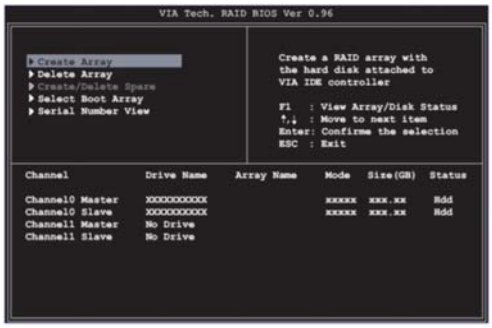
7 Proceed to section "Entering VIA Tech RAID BIOS Utility" for the next procedure.

Entering VIA Tech RAID BIOS Utility

1 Boot-up your computer.

2 During POST, press <TAB> to enter VIA RAID configuration utility. The following menu options will appear.

The RAID BIOS information on the setup screen shown is for reference only. What you see on your screen may not by exactly the same as shown.


VIA Tech. RAID BIOS Ver 0.96
Create Array
Delete Array
Create/Delete Spare
Select Boot Array
Serial Number View
Create a RAID array with the hard disk attached to VIA IDE controller
F1 : View Array/Disk Status
↑,↓ : Move to next item
Enter: Confirms the selection
ESC : Exit
Channel Drive Name Array Name Mode Size(GB) Status
Channel0 Master xxxxxxxxxx xxxxx xxx.xx Hdd
Channel0 Slave xxxxxxxxxx xxxxx xxx.xx Hdd
Channel1 Master No Drive
Channel1 Slave No Drive

On the upper-right side of the screen is the message and legend box. The keys on the legend box allow you to navigate through the setup menu options. The message describes the function of each menu item. The following lists the keys found in the legend box with their corresponding functions.

F1	View Array
↑↓	Move to the next item
Enter	Confirm the selection
ESC	Exit

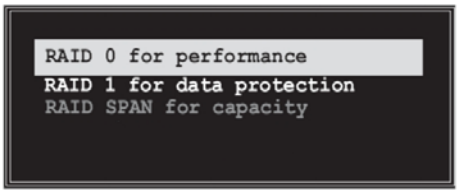
Create Array

1 In the VIA RAID BIOS utility main menu, select **Create Array** then press the <Enter> key. The main menu items on the upper-left corner of the screen are replaced with create array menu options.

VIA Tech. RAID BIOS Ver 0.96
Auto Setup For Data Security
Array Mode RAID 1 (Mirroring)
Select Disk Drives
Start Create Process
Create a RAID array with the hard disk attached to VIA IDE controller
F1 : View Array/Disk Status
↑,↓ : Move to next item
Enter: Confirm the selection
ESC : Exit
Channel Drive Name Array Name Mode Size(GB) Status
Channel0 Master XXXXXXXXX xxxxx xxx.xx Hdd
Channel0 Slave XXXXXXXXX xxxxx xxx.xx Hdd
Channel1 Master No Drive
Channel1 Slave No Drive

RAID 0 for performance

1 Select the second option item **Array Mode**, then press the <Enter> key. The RAID system setting pop-up menu appears.



2 Select **RAID 0 for performance** from the menu and press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for stripped sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.

3 Select **Select Disk Drives**, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. An asterisk is placed before the selected drive.

4 Select **Block Size**, then press <Enter> to set array block size. Lists of valid array block sizes are displayed on a pop-up menu.

Tip *For server systems, it is recommended to use a lower array block size. For multimedia computer systems used mainly for audio and video editing, a higher array block size is recommended for optimum performance.*

Use arrow keys to move selection bar on items and press <Enter> to select.

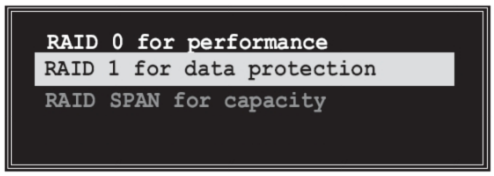
5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation appears:

The same confirmation message appears when the Auto Setup for Performance option is selected.

Press "Y" to confirm or "N" to return to the configuration options.

RAID 1 for data protection

1 Select the second option item Array Mode, then press the <Enter> key. The RAID system setting pop-up menu appears.



2 Select RAID 1 for data protection from the menu and press <Enter>. Select next task from pop-up menu. The task Create only creates the mirrored set without creating a backup. Create and duplicate creates both mirrored set and backup.

3 Select task and press <Enter>. The screen returns to Create Array menu items. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Data Security or manually configure the RAID array for mirrored sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.

4 Select Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. (An asterisk is placed before a selected drve.)

5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation message appears:

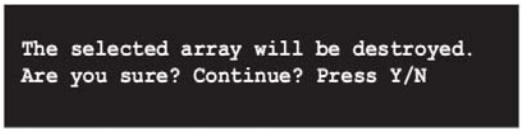
The same confirmation message appears when the Auto Setup for Performance option is selected.

Press “Y” to confirm or “N” to return to the configuration options.

Delete Array

1 In the VIA RAID BIOS utility main menu, select **Delete Array** then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.

2 Press the <Enter> key to select a RAID array to delete. The following confirmation message appears.

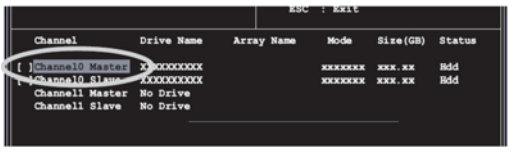


Press “Y” to confirm or “N” to return to the configuration options.

Select Boot Array

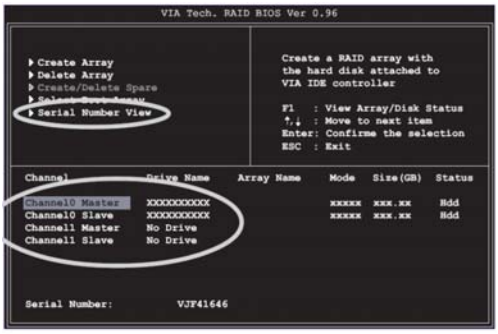
1 In the VIA RAID BIOS utility main menu, select Select Boot Array then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.

2 Press the <Enter> key to select a RAID array for boot. The Status of the selected array will change to Boot. Press <ESC> key to go return to menu items. Follow the same procedure to deselect the boot array.



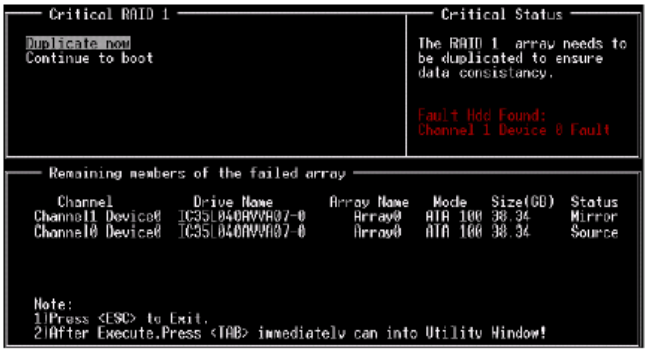
Serial Number View

1 In the VIA RAID BIOS utility main menu, select Serial Number View then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays. Move the selection bar on each item and the serial number is displayed at the bottom of the screen. This option is useful for identifying same model disks.


VIA Tech. RAID BIOS Ver 0.96
Create Array
Delete Array
Create/Delete Spare
Serial Number View
Create a RAID array with the hard disk attached to VIA IDE controller
F1 : View Array/Disk Status
↑,↓ : Move to next item
Enter: Confirms the selection
ESC : Exit
Channel Drive Name Array Name Mode Size(GB) Status
Channel0 Master XXXXXXXXXX XXXXX XXX.XX Hdd
Channel0 Slave XXXXXXXXXX XXXXX XXX.XX Hdd
Channel1 Master No Drive
Channel1 Slave No Drive
Serial Number: VJF41646

Duplicate Critical RAID 1 Array

When booting up the system, BIOS will detect if the RAID 1 array has any inconsistencies between user data and backup data. If BIOS detects any inconsistencies, the status of the disk array will be marked as critical, and BIOS will prompt the user to duplicate the RAID 1 in order to ensure the backup data consistency with the user data.


Critical RAID 1
Duplicate now
Continue to boot
Critical Status
The RAID 1 array needs to be duplicated to ensure data consistancy.
Fault Hdd Found:
Channel 1 Device 0 Fault
Remaining members of the failed array
Channel Drive Name Array Name Mode Size(GB) Status
Channel1 Device0 IC35L040AVVA07-0 Array0 ATA 100 38.34 Mirror
Channel0 Device0 IC35L040AVVA07-0 Array0 ATA 100 38.34 Source
Note:
1)Press <ESC> to Exit.
2)After Execute,Press <TAB> immediately can into Utility Window!

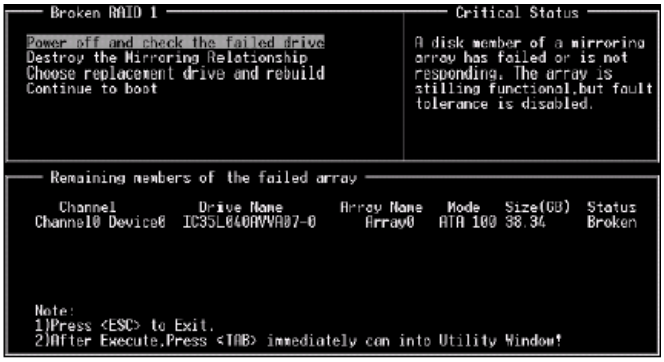
If user selects **Continue to boot**, it will enable duplicating the array after booting into OS.

Rebuild Broken RAID 1 Array

When booting up the system, BIOS will detect if any member disk drives of RAID has failed or is absent. If BIOS detects any disk drive failures or missing disk drives, the status of the array will be marked as broken.

If BIOS detects a broken RAID 1 array but there is a spare hard drive available for rebuilding the broken array, the spare hard drive will automatically become the mirroring drive. BIOS will show a main interface just like a duplicated RAID 1. Selecting **Continue to boot** enables the user to duplicate the array after booting into operating system.

If BIOS detects a broken RAID 1 array but there is no spare hard drive available for rebuilding the array, BIOS will provide several operations to solve such



1. Power off and Check the Failed Drive:

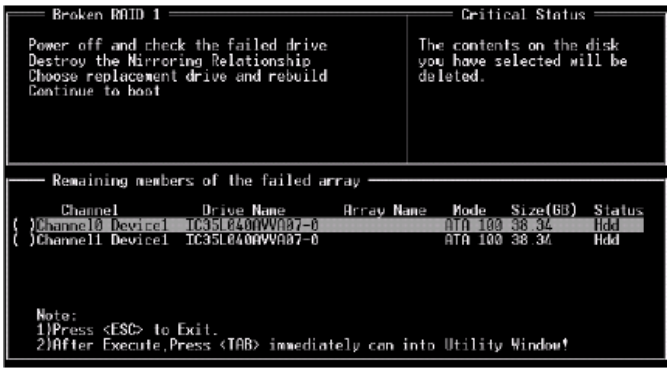
This item turns off the computer and replaces the failed hard drive with a good one. If your computer does not support APM, you must turn off your computer manually. After replacing the hard drive, boot into BIOS and select **Choose replacement drive and rebuild** to rebuild the broken array.

2. Destroy the Mirroring Relationship:

This item cancels the data mirroring relationship of the broken array. For broken RAID 1 arrays, the data on the surviving disk will remain after the destroy operation. However, **Destroy the Mirroring Relationship** is not recommended because the data on the remaining disk will be lost when the hard drive is used to create another RAID 1 array.

3. Choose Replacement Drive and Rebuild:

This item enables users to select an already-connected hard drive to rebuild the broken array. After choosing a hard drive, the channel column will be activated.


Broken RAID 1
Critical Status
Power off and check the failed drive
Destroy the Mirroring Relationship
Choose replacement drive and rebuild
Continue to boot
The contents on the disk you have selected will be deleted.
Remaining members of the failed array
Channel
Drive Name
Array Name
Mode
Size(GB)
Status
( )Channel0 Device1 IC35L040AVVA07-0 ATA 100 38.34 Hdd
( )Channel1 Device1 IC35L040AVVA07-0 ATA 100 38.34 Hdd
Note:
1)Press <ESC> to Exit.
2)After Execute,Press <TAB> immediately can into Utility Window!

Highlight the target hard drive and press <Enter>, a warning message will appear. Press **Y** to use that hard drive to rebuild, or press **N** to cancel. Please note selecting option **Y** will destroy all the data on the selected hard drive.

4. Continue to boot:

This item enables BIOS to skip the problem and continue booting into OS.

Installing RAID Software & Drivers

Install Driver in Windows OS

New Windows OS (2000/XP/NT4) Installation

The following details the installation of the drivers while installing Windows XP.

1. Start the installation:
   Boot from the CD-ROM. Press **F6** when the message "Press F6 if you need to install third party SCSI or RAID driver' appears.
2. When the Windows Setup window is generated, press **S** to specify an Additional Device(s).
3. Insert the driver diskette **VIA VT8237 Disk Driver** into drive A: and press <Enter>.
4. Depending on your operation system, choose **VIA Serial ATA RAID Controller (Windows XP), VIA Serial ATA RAID Controller (Windows 2000) or VIA Serial ATA RAID Controller (Windows NT4)** from the list that appears on Windows XP Setup screen, press the <Enter> key.
5. Press <Enter> to continue with installation or if you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, press <Enter> to continue with installation.
6. From the Windows XP Setup screen press the <Enter> key. Setup will now load all device files and the continue the Windows XP installation.

Existing Windows XP Driver Installation

1. Insert the ECS CD into the CD-ROM drive.
2. The CD will auto-run and the setup screen will appear.
3. Under the Driver tab, click on **VIA SATA RAID Utility.**
4. The drivers will be automatically installed.

Confirming Windows XP Driver Installation

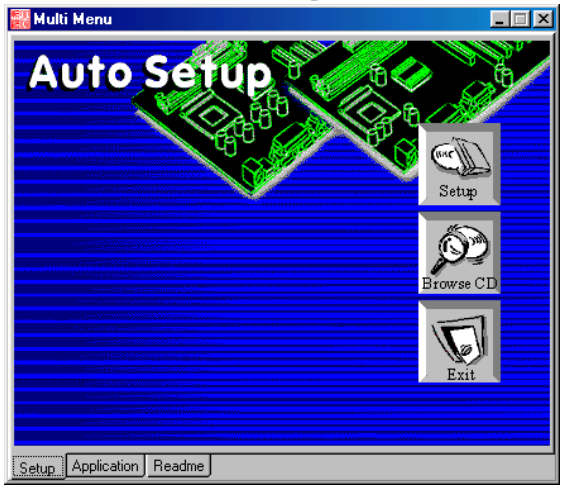
1. From Windows XP, open the **Control Panel** from **My Computer** followed by the System icon.
2. Choose the **Hardware** tab, then click the **Device manager** tab.
3. Click the "+" in front of the **SCSI and RAID Controllers** hardware type. The driver **VIA IDE RAID Host Controller** should appear.

Installation of VIA SATA RAID Utility

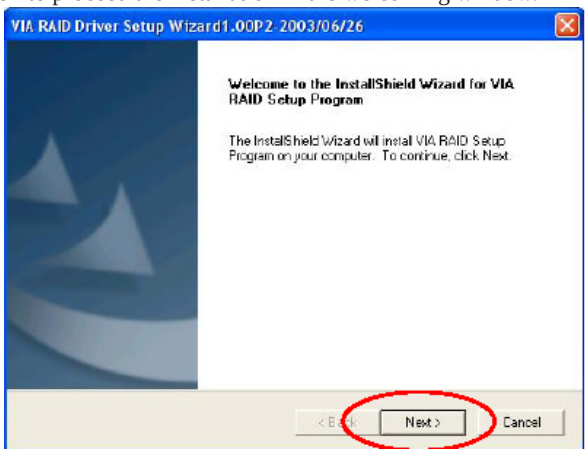
The VIA SATA RAID Utility is the software package that enables high-performance RAID 0 arrays in the Windows*XP operating system. This version of VIA SATA RAID Utility contains the following key features:

- Serial ATA RAID driver for Windows XP
- VIA SATA RAID utility
- RAID0 and RAID1 functions

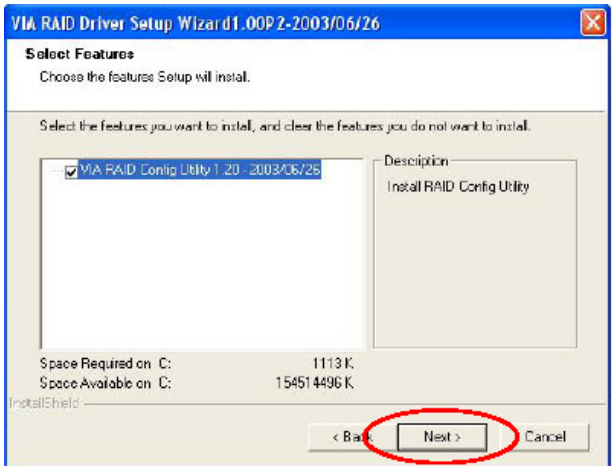
Insert the ECS CD and click on the **Setup** to install the software.



The **InstallShield Wizard** will begin automatically for installation. Click on the **Next** button to proceed the installation in the welcoming window.

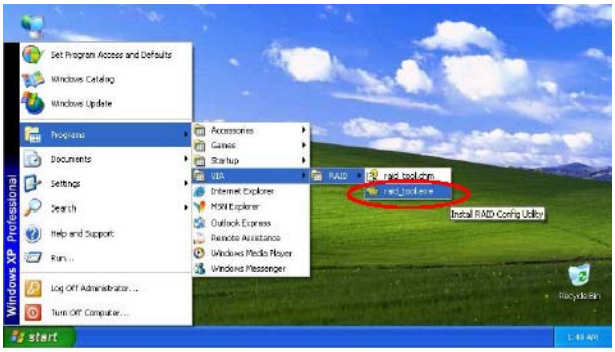

VIA RAID Driver Setup Wizard1.00P2-2003/06/26
Welcome to the InstallShield Wizard for VIA RAID Setup Program
The InstallShield Wizard will install VIA RAID Setup Program on your computer. To continue, click Next.
< Back
Next >
Cancel

Put a check mark in the check box to install the feature you want. Then click **Next** button to proceed the installation.


VIA RAID Driver Setup Wizard1.00P2-2003/06/26
Select Features
Choose the features Setup will install.
Select the features you want to install, and clear the features you do not want to install.
VIA RAID Config Utility 1.20 - 2003/06/25
Description
Install RAID Config Utility
Space Required on C: 1113K
Space Available on C: 154514496K
InstallShield
< Back
Next >
Cancel

Using VIA RAID Tool

Once the installation is complete, go to Start---> Programs---> VIA---> raid_tool.exe to enable VIA RAID Tool.



After the software is finished installation, it will automatically started every time Windows is initiated. You may double-click on the icon shown system tray of the tool bar to launch the **VIA RAID Tool** utility.

The main interface is divided into two windows and the toolbar above contain the main functions. Click on these toolbar buttons to execute their specific functions. The left windowpane displays the controller and disk drives and the right windowpane displays the details of the controller or disk drives. The available features are as following:

View by Controller

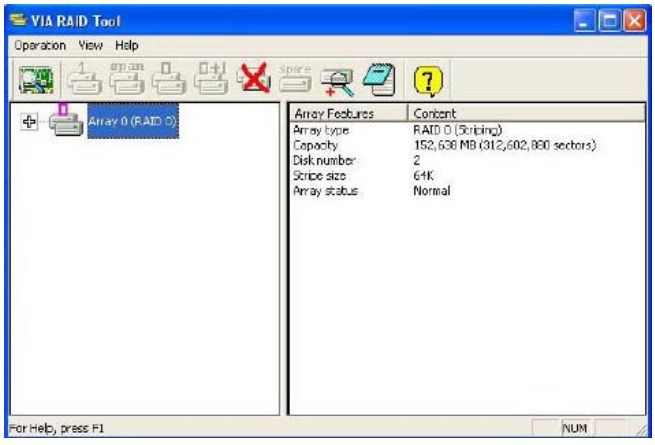
View by Devices

View Event log

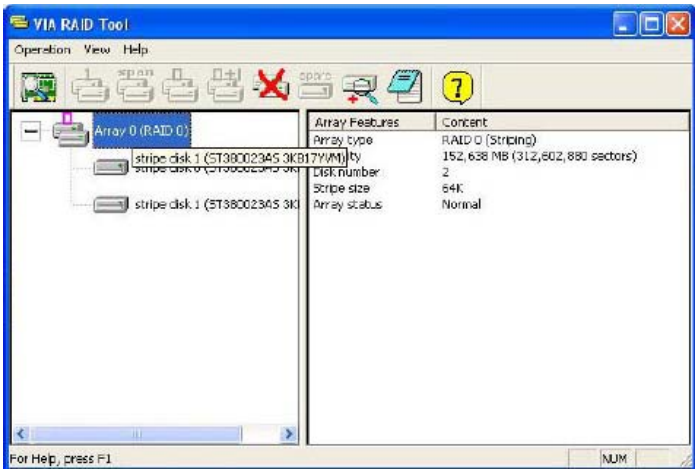
Help Topics

It means that VT8237 SATA RAID only has the feature of monitoring the statuses of RAID 0 and RAID 1.

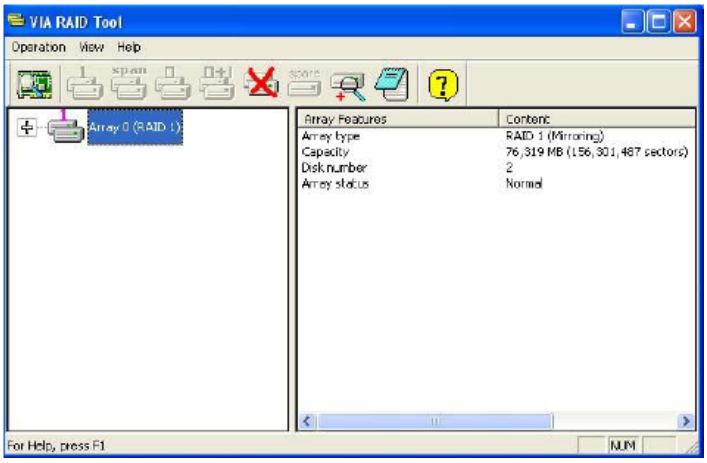
Click on or button to determine the viewing type of left windowpane. There are two viewing types: By controllers and by device. Click on the object in the left windowpane to display the status of the object in the right windowpane. The following screen shows the status of Array 0-RAID 0.



Click on the plus (+) symbol next to Array 0--RAID 0 to see the details of each disk.



You may also use the same or button to view the statuses of Array 0--RAID 1.



Click on the plus (+) symbol next to Array 0; RAID 1 to see the details of each disk.